**BEFORE**
**THE PUBLIC SERVICE COMMISSION OF**
**SOUTH CAROLINA**
**DOCKET NO. 2017-3-E**

| | | |
|---|---|---|
| In the Matter of<br>Annual Review of Base Rates<br>for Fuel Costs for<br>Duke Energy Carolinas , LLC | ) | **DIRECT TESTIMONY OF**<br>**JASON D. MARTIN FOR**<br>**DUKE ENERGY CAROLINAS, LLC** |

## I. INTRODUCTION AND PURPOSE

**Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

A. My name is Jason D. Martin and my business address is 40 West Broad Street, Suite 690, Greenville, SC 29601.

**Q. BY WHOM AND IN WHAT CAPACITY ARE YOU EMPLOYED?**

A. I am Director of Strategy, Policy, and Strategic Investment for South Carolina in the Distributed Energy Technology group at Duke Energy Corporation. I am responsible for the development and execution of strategy and policy support related to distributed energy technology for Duke Energy's retail franchises, including Duke Energy Progress, LLC ("DEP" or the "Company") and Duke Energy Carolinas, LLC ("DEC," together with DEP, the "Companies"). This includes evaluation of legislation and regulation, and implementation of customer programs such as those associated with Act 236 (the "Act"), the South Carolina Distributed Energy Resource Act of 2014.

**Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE.**

A. I received a Bachelor of Science degree in Electrical and Computer Engineering at North Carolina State University. I have been employed at Duke Energy since 1987 working in the areas of Engineering, Customer Services, Large Account Management, and Distributed Energy Technologies.

**Q. HAVE YOU TESTIFIED BEFORE THIS COMMISSION BEFORE?**

A. No.

**Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

A. The purpose of my testimony is to provide support for the Distributed Energy Resource Program ("DERP") costs that are incorporated into the proposed fuel factors prepared by Witness McGee. I will describe the nature of costs filed as well as any changes made to the DERP portfolio since the 2016 fuel proceeding.

**Q. PLEASE DESCRIBE THE LEVELS OF SOLAR ADOPTION DEC HAS EXPERIENCED SINCE THE IMPLEMENTATION OF ACT 236.**

A. Since January 1, 2015 DEC has seen significant growth in solar adoption as shown below in Table 1 and as a result is on track to meet the Act 236 goals.

**Table 1: Duke Energy Carolinas Solar Adoption, as of June 1, 2017**

| | Act 236 Goal | Capacity Currently Installed | % of Goal |
|---|---|---|---|
| Utility Scale Solar (1MW – 10MW) | 40 | 0 | 0% |
| Customer Scale Solar (<1MW) | 40 | 29.8 | 75% |
| Small Scale Solar (<20kW) | 10 | 21.1 | 211% |

Notes
1. All values in MC-AC
2. Customer Scale Solar is inclusive of Small Scale Solar

The Company has encouraged solar adoption through the Net Energy Metering incentive and other DERP efforts discussed later in my testimony.

**Q. PLEASE DESCRIBE THE DERP COSTS THAT ARE INCLUDED IN THE REVIEW, FORECAST, AND BILLING PERIODS.**

A. Pursuant to Commission Order No. 2015-515, the Company offers its customers a variety of programs to support solar development. As a result, the Company incurred DERP incremental and avoided costs totaling $3,909,837 in the period from June 1, 2016 through May 31, 2017 (the "review period"); anticipates incurring $3,854,020 during the

period June 1, 2017 through September 30, 2017 (the "forecast period"); and projects to incur $11,815,610 in the period October 1, 2017 through September 30, 2018 (the "billing period").

These costs represent the avoided and incremental costs associated with the Company's approved DERP offerings, including 1) Distributed Energy Resource ("DER") Net Energy Metering ("NEM") Incentive; 2) Solar Rebate Program; 3) Carrying Costs on Deferred Amounts; 4) NEM Avoided Capacity Costs; 5) NEM Meter Costs; 6) General and Administrative Expenses, including incremental labor costs as a direct result of DERP, IT and billing enhancements, and other administrative costs associated with delivering these new programs to customers. Table 2, below, is an itemization of actual and expected DERP costs.

**Table 2: DEC DERP Cost Summary - Review, Forecast, and Billing Periods**

| Cost Type | Review Period | Forecast Period | Billing Period |
|---|---|---|---|
| | 6/16-5/17 | 6/17-9/17 | 10/17-9/18 |
| **DERP Incremental Costs** | | | |
| Purchased Power Agreements | $ - | $ - | |
| DER NEM Incentive | 973,048 | 1,110,143 | 3,580,776 |
| Solar Rebate Program | 779,948 | 749,955 | 3,090,662 |
| Shared Solar Program | - | - | - |
| Carrying Costs on Deferred Amounts | 710,485 | 709,638 | 2,929,752 |
| NEM Avoided Capacity Costs | 52,714 | 55,606 | 304,101 |
| NEM Meter Costs | 107,355 | 75,729 | 351,590 |
| General and Administrative Expenses | 1,258,370 | 1,161,588 | 1,554,950 |
| | | | |
| **Total DER Incremental Costs** | $ 3,881,920 | $ 3,862,659 | $ 11,811,831 |
| | | | |
| **DERP Avoided Cost - Energy & Capacity** | | | |
| Purchased Power Agreements | $ 27,916 | $ 1,361 | $ 3,779 |
| Shared Solar Program | | | |
| | | | |
| **Total DERP Avoided Cost** | $ 27,916 | $ 1,361 | $ 3,779 |

Source: McGee Exhibit 8 and 9

**Q. PLEASE DESCRIBE THE COMPANY'S DER NEM INCENTIVE AND COSTS.**

A. The Company's first DERP offering, the DER NEM Incentive, is a credit available to eligible net energy metering customer-generators that enables the customer-generator to receive a full retail rate compensation for each kilowatt-hour (kWh) generated by their solar facility, for the period of time defined in the settlement agreement reached in Docket No. 2014-246-E.

The DER NEM Incentive approximates the difference between the value of a NEM Distributed Energy Resource, as computed using the methodology approved in Docket No. 2014-246-E, and the retail rate. Settling Parties in that same docket agreed

that the DER NEM Incentive shall be treated as an incremental cost, as defined in S.C. Code Ann. § 58-39-140, effectively socializing the cost of the DER NEM Incentive to all retail customers as a component of the utilities' respective DER programs.

As shown on the "DER NEM Incentive" line in Table 2 above, the total costs associated with this incentive are expected to grow significantly in the Billing Period. This growth is related to an expected increase in customers who have elected service under Rider RNM due to the availability of the Solar Rebate Program, discussed below.

Table 3, below, depicts the current and expected number of customers and the associated kilowatts (kW) (AC) of those who have elected to net meter. In accordance with Act 236, the Company will make net energy metering available to customer generators until the total nameplate generating capacity of net energy metering systems equals two percent of the Company's retail peak demand, which is roughly 80,000 kW (AC). Rider NM-SC refers to the Company's legacy net metering rider available from 2008-2015; Rider NM-SC closed to new customers when Rider RNM was made available. In late 2015, all customers who had previously elected Rider NM-SC were contacted by the Company and encouraged to switch to Rider RNM due to the fact that Rider NM expires in 2020[1] and Rider NMR expires in 2025.[2]

**Table 3: DEC Net Energy Metering Status and Projections - Review, Forecast, and Billing**

| Rider RNM-3 and Rider NM-SC | Review Period | Forecast Period | Billing Period |
|---|---|---|---|
| | 6/16-5/17 | 6/17-9/17 | 10/17-9/18 |
| Capacity (kW-AC) | 29,030 | 45,500 | 74,200 |
| # of Customers | 2,791 | 3,688 | 6,164 |

[1] *See* S.C. Code Ann § 58-40-20(A) (generators whose net energy metering facilities were energized prior to the availability of net energy metering rates approved by the commission under the terms of this chapter may remain in historic net energy metering programs through December 31, 2020).
[2] *See* Settlement Agreement in Docket No. 2014-246-E.

**Q. COMMISSION ORDER 2015-194 REQUIRES THAT THE VALUE OF NEM DISTRIBUTED ENERGY RESOURCES IS COMPUTED ANNUALLY. WHAT IS THE 2017 VALUE AND HOW DID YOU ARRIVE AT THAT NUMBER?**

A. Through the review of applicable input assumptions, the Company has updated the 2017 value of NEM Distributed Energy Resources to $0.05300 per kWh for Schedules RS, RE, ES, RT, and SGS and $0.05298 for all other schedules. Martin Exhibit 1 provides the Company's proposed 2017 net metering rider, Rider RNM-Second Revised Leaf. The only changes to the tariff are the updated value of NEM Distributed Energy Resources and the removal of a reference to the Palmetto Clean Energy (PaCE) program in Provision #5 since it has been discontinued. It is not necessary to update the rate under the annual credit for excess generation until a new Purchased Power Schedule is approved.

Table 4, below, lists the components of the methodology used to determine the value of NEM Distributed Energy Resources. The calculation is consistent with the methodology approved in Order No. 2015-194. The methodology includes all categories of potential costs or benefits to the utility system that are capable of quantification or possible quantification in the future. Where there is currently a lack of capability to accurately quantify a particular category, that category has been included in the methodology as a placeholder. For example, while "Avoided CO2 Emission Cost" is included as a component, its value is currently zero; a zero monetary value for CO2 will be used until state or federal laws or regulations result in an avoidable cost on Utility systems for these emissions, per the approved methodology.

**Table 4: Value of NEM Distributed Energy Resource, by Component**

| Components of NEM Distributed Energy Resources Value | Component value ($ per kWh) Small PV[4] | Component value ($ per kWh) Large PV[4] |
|---|---|---|
| Avoided Energy Costs | $0.03659 | $0.03657 |
| Avoided Capacity Costs | $0.01399 | $0.01400 |
| Ancillary Services | $0.00000 | $0.00000 |
| T & D Capacity | $0.00000 | $0.00000 |
| Avoided Criteria Pollutants[1] | $0.00003 | $0.00003 |
| Avoided CO2 Emissions Costs | $0.00000 | $0.00000 |
| Fuel Hedge[2] | $0.00000 | $0.00000 |
| Utility Integration & Interconnection Cost | $0.00000 | $0.00000 |
| Utility Administrative Cost | $0.00000 | $0.00000 |
| Environmental Costs | $0.00000 | $0.00000 |
| | | |
| Subtotal | $0.05061 | $0.05060 |
| | | |
| Line Loses[3] | $0.00238 | $0.00238 |
| | | |
| Total Value of NEM Distributed Energy Resources | $0.05300 | $0.05298 |

Notes

[1] Pursuant to the Settlement Agreement reached in the Company's 2016 fuel case (Docket 2016-3-E), NOx & SOx that were previously included in marginal energy cost have been separately identified. The Company will identify other avoided criteria pollutant cost separately from marginal energy cost in future avoided cost analyses.

[2] Pursuant to the Settlement Agreement reached in the Docket N0. 2016-3-E – Order No. 2016-687, the Company has calculated the fuel hedge value in a manner consistent with the definition according to the Settlement Agreement in Docket No. 2015-246-E, Attachment A. Because no fuel hedge exists, as calculated, there is no value to assign in the table.

[3] Line loss factors are 3.780% on on-peak marginal energy, 3.773% for off-peak marginal energy and 7.136% for marginal capacity per DEC's updated 2017 line loss analysis.

[4] "Small PV" refers to a load shape reflecting generation installed by a lower usage residential or small commercial/industrial customer. "Large PV" refers to a load shape characteristic of generation by a customer with higher consumption requirements and applies to all other nonresidential rate schedules.

**Q. HAVE YOU REVIEWED THE CALCULATION METHODOLOGY OF THE DER NEM INCENTIVE PROVIDED BY WITNESS MCGEE?**

A. Yes. I have reviewed McGee Exhibit 14.

**Q. IS THE CALCULATION METHODOLOGY PROVIDED BY WITNESS MCGEE CONSISTENT WITH THE METHODOLOGY APPROVED IN DOCKET NO. 2014-246-E AND OUTLINED IN COMMISSION ORDER 2015-194?**

A. Yes, it is consistent with the methodology approved in Docket No. 2014-246-E, and it applies the approved methodology using generic customer usage information and estimated solar generation data.

**Q. THE SETTLEMENT AGREEMENT REACHED IN THE COMPANY'S 2016 FUEL PROCEEDING IN DOCKET NO. 2016-3-E REQUIRED THE COMPANY TO DISCUSS CERTAIN TOPICS WITH THE SETTLING PARTIES AT THE 4TH QUARTER DER COLLABORATIVE MEETING AND ATTEMPT TO REACH A CONSENSUS FOR QUANTIFYING CERTAIN COMPONENTS OF THE VALUE OF DER METHODOLOGY. PLEASE PROVIDE A SUMMARY OF THESE DISCUSSIONS.**

A. The Company presented for discussion the topics described below at its fourth quarter DER collaborative meeting, on December 2, 2016, at 1201 Main Street, Suite 1180, Columbia South Carolina. The Company continued the discussion with interested parties on February 22, 2017, via teleconference.

The Parties discussed the appropriateness of using variable rates for avoided energy and capacity costs, however no consensus was reached, and the Company continues to believe the use of variable rates is appropriate.

Additionally, the Parties discussed the various ways to estimate the value of Transmission & Distribution ("T&D") deferral due to NEM Distributed Energy Resources. While no set date was established for when the T&D value will be included in the DERP NEM methodology as a separate line-item the Parties agreed that such valuation would ideally be tailored to the individual utility system's peak(s), ramp rates, and expansion plan(s). Several of the participants agreed to continue a discussion of

different ways of calculating T&D values at a later date. The Company expressed its position that the T&D value (a) should not be borrowed from other studies of other regions and utilities; and (b) should be introduced at the same time that the utility costs related to solar integration are included in the DERP NEM methodology.

The Parties discussed line losses and how such losses are influenced by customer generation. The value of NEM Distributed Energy Resources currently reflects both average energy and peak capacity loss values which are consistent with loss calculations reflected in a retail rate case. The Parties questioned whether a loss factor that is more reflective of the hours solar generation is operating would be more appropriate. To date, a specific study of how distributed generation impacts such losses has not been undertaken, but with increased deployment of solar generation the impact on losses and ancilliary services is of greater interest. The Parties also discussed differences in the loss methodologies used by each utility. The Companies' are presently evaluating adoption of a common line loss calculation approach for both utilities and will attempt to include a more granular evaluation of how line losses are being impacted by distributed generation and the potential effect of any solar back-feed onto the distrbution grid. In this proceeding, the line loss values have been updated to reflect more current estimates based upon the current methodology.

The Parties discussed quantifying avoided environmental costs and the Company agreed to investigate and separately state the avoided environmental allowance costs and environmental reagent costs whenever possible. The Company has been able to separately identify NOx and SOx related costs, which are now separately identified as "Avoided Criteria Pollutants."

And lastly, the Parties discussed the topic of fuel hedge valuation, however, no consensus was reached on this topic.

**Q. PLEASE DESCRIBE THE STATUS OF THE COMPANY'S SOLAR REBATE PROGRAM.**

A. The Company's solar rebate program was implemented to assist the Company in meeting its Customer Scale solar requirement (facilities less than 1,000 kW) under Act 236. The Company has made available two solar rebate programs for its customers: the Small Solar Rebate Program and the Large Solar Rebate Program. Both provide a qualified customer with a rebate of $1.00 per watt-dc upon successful energization of a solar facility that conforms to the sizing requirements outlined in Act 236. As shown in Table 5, below, interest in the solar rebate, as measured by solar rebate applications received, has exceeded available capacity per Act 236 goals.

**Table 5: Duke Energy Carolinas Solar Rebate Program Status, as of June 1, 2017**

| Solar Facility Size | ACT 236 Goal | Total Capacity of Rebate Applications Received | Total Capacity of Rebate Applications Accepted into the Rebate Program |
|---|---|---|---|
| "Small" - Up to 20kW-AC | Atleast 10,000 kW-AC | 17,500 | 13,520 |
| "Large" - 20.01kW-AC - 1,000kW-AC | 30,000 | 37,500 | 26,480 |
| Total | 40,000 | 55,000 | 40,000 |

*All Values in kW-AC

As a result of applications in excess of available capacity, all applications received after November 15, 2016 were placed on a waiting list, and the program was closed to new applications on January 27, 2017.

**Q. PLEASE DESCRIBE THE DERP COSTS ASSOCIATED WITH THE COMPANY'S SOLAR REBATE PROGRAM.**

A. The incremental costs associated with the Solar Rebate Program and included in this filing are the amortization of rebates paid, carrying costs on deferred amounts, and

general and administrative expenses required to manage the program, as shown in Table 2.

**Q. PLEASE DESCRIBE THE STATUS OF THE COMPANY'S SHARED SOLAR PROGRAM.**

A. The Company's Shared Solar Program, approved in Order No. 2015-515, is a means for multiple retail customers to subscribe to and share in the economic benefits of one renewable energy facility. To date, the Company has filed and received approval for a Shared Solar tariff which includes a low income component, finished internal billing system upgrades to enable the program, and signed agreements with three firms that will assist in outreach efforts as well as the application process for the low income component of the program. The Company is deploying technologies to assist with managing the program, such as a vendor website to receive applications and serve as a customer portal. Currently, the Company is evaluating bids received from solar developers to determine which projects will move forward in the solicitation process.

**Q. PLEASE DESCRIBE THE DERP COSTS ASSOCIATED WITH THE COMPANY'S SHARED SOLAR PROGRAM.**

A. The incremental costs associated with the Shared Solar Program are limited to the shared solar incentive and general and administrative expenses, including labor and IT project costs required to adapt the Company's database and billing systems to the Shared Solar transaction. These costs are listed on Table 2.

**Q. PLEASE DESCRIBE THE RESULTS OF THE COMPANY'S REQUEST FOR PROPOSALS OF UTILITY-SCALE SOLAR FACILITIES, THE ASSOCIATED TIMELINE, AND COSTS.**

A. In the fall of 2015, the Company solicited competitive bids for solar PV from facilities totaling 40,000 kW (AC), the equivalent of one percent of the Company's estimated South Carolina retail peak demand. This solicitation resulted in 23 projects totaling 135 MW being placed on a short list in March of 2016. Due to the required time to complete interconnection studies, the Company has further extended its timeline for energization of all projects since the 2016 fuel proceeding and now anticipates all of these projects will be energized by mid-2019.

**Q. PLEASE DESCRIBE GENERAL AND ADMINISTRATIVE EXPENSES, INCLUDING INCREMENTAL LABOR COSTS AS A DIRECT RESULT OF DERP, IT AND BILLING ENHANCEMENTS, AND OTHER ADMINISTRATIVE COSTS ASSOCIATED WITH DELIVERING THESE NEW PROGRAMS TO CUSTOMERS.**

A. As stated previously, included in this filing are incremental labor costs required to manage and implement the NEM Incentive program, the Solar Rebate Program, and the Shared Solar Program. Also included are the incremental costs required to adapt the Company's database and billing systems to accommodate Shared Solar transactions.

**Q. ARE THERE ANY OTHER DERP COSTS THAT WE SHOULD BE AWARE OF?**

**A.** Yes. As noted by Witness McGee in her testimony, the Company seeks recovery of avoided capacity associated with net metered generation. Also, included are costs for revenue-grade meters to be located at net-metered customer-generators' premises. As the number of customer-generators is expected to grow significantly in the near future, the Company believes that enhanced monitoring of solar PV generation against actual customer loads, in particular, will yield operational benefits in the future.

**Q. WHAT HAS THE COMPANY DONE TO COMMUNICATE ITS DER PROGRAMS AND PROGRAM CHANGES TO STAKEHOLDERS IN THE PAST YEAR?**

A. Since the Commission approved the Company's DER Program application in July of 2015, the Company has utilized various communication and outreach tools to ensure that solar stakeholders and retail customers have access to the basic facts about the Company's programs and are able to communicate with representatives from the Company about the programs. For example, the Company has: 1) conducted quarterly DER Collaborative meetings with a diverse group of stakeholders representing the environmental community, low income community, solar installers, solar developers, The Alliance for Solar Choice, SolarCity, Sunrun, Walmart, Nucor, and the Office of Regulatory Staff; 2) conducted multiple educational sessions for solar installers and developers at meetings of the South Carolina Solar Council and South Carolina Solar Business Alliance; 3) conducted webinars for solar installers, particularly as interest in the solar rebate program accelerated; 4) provided call center support to retail customers and solar installers via its Renewable Service Center, which is staffed with twenty professionals. The Company uses these outreach efforts as well as regular communication to keep stakeholders and retail customers informed of the status of the program offerings and other developments related to its DER programs.

**Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

A. Yes.

Duke Energy Carolinas, LLC

Electricity No. 4
South Carolina ~~First~~ Second Revised Leaf No. 119
Superseding South Carolina ~~Original~~ First Leaf No. 119

# RIDER RNM (SC)
# RENEWABLE NET METERING

## AVAILABILITY

Available to residential and nonresidential Customers receiving concurrent service from the Company, on a metered rate schedule, except as indicated under General Provisions. The renewable net energy metered (NEM) generation, which includes a solar photovoltaic; solar thermal; wind powered; hydroelectric; geothermal; tidal or wave energy; recycling resource; hydrogen fueled or combined heat and power derived from renewable resources; or biomass fueled generation source of energy, is installed on the Customer's side of the delivery point, for the Customer's own use, interconnected with and operated in parallel with the Company's system. The generation must be located at a single premises owned, operated, leased or otherwise controlled by the Customer. The system may either be owned by the Customer or by a lessor and leased to the Customer.

Service under this Rider is closed to new participants on and after January 1, 2021, or when the statutory minimum system capacities described in S.C. Code § 58-39-130 have been reached, whichever occurs first. Customers requesting NEM service after January 1, 2021, will receive service in accordance with the NEM tariff in effect at that time. This Rider shall expire and no longer be available for NEM service on and after January 1, 2026.

## GENERAL PROVISIONS

1. To qualify for service under this Rider, the Customer must comply with all applicable interconnection standards and must provide, in writing, the Nameplate Capacity of the Customer's installed renewable generation system. Any subsequent change to the Nameplate Capacity must be provided by the Customer to the Company in writing by no later than 60 days following the change.
2. To qualify for service under this Rider, a residential Customer may be served on an approved residential rate schedule, but may not be served under Schedule WC or Rider NM. The Nameplate Capacity of Customer's installed generation system and equipment must not exceed 20 kW AC.
3. To qualify for service under this Rider, a nonresidential Customer may be served on an approved general service or industrial rate schedule, but may not be served on Schedules TS, BC, HP, PG, MP or Rider NM. The Nameplate Capacity of Customer's installed renewable generation system and equipment must not exceed the lesser of 1,000 kW AC or 100% of the Customer's contract demand which shall approximate the Customer's maximum expected demand.
4. If the Customer is not the owner of the premises receiving electric service from the Company, the Company shall have the right to require that the owner of the premises give satisfactory written approval of the Customer's request for service under this Rider.
5. ~~Customers served under this Rider are not eligible to receive payment from Palmetto Clean Energy (PaCE) for energy generated by the Customer's renewable generation system.~~ All environmental attributes, including but not limited to "renewable energy certificates" (RECs), "renewable energy credits" or "green tags", associated with the generation system shall be conveyed to the Company until billing of a Distributed Energy Resource Program Rider DERP Charge is discontinued on all customer bills. The Customer certifies that the environmental attributes have not, and will not, be remarketed or otherwise resold for any purpose, including another distributed energy resource standard or voluntary purchase of renewable energy certificates in South Carolina or in any other state or country for the Contract Period and any successive contract periods thereto.
6. If the electricity supplied to the Customer by the Company exceeds the electricity delivered to the grid by the customer-generator during a monthly billing period, the customer-generator shall be billed for the net electricity in kilowatt hours (kWh) supplied by the Company plus any demand or other charges under the applicable rate schedule or riders. If the electricity delivered to the grid by the customer-generator exceeds the electricity in kWh supplied by the utility during a monthly billing period, the Customer-Generator shall be credited for the excess kWh generated during that billing period.
7. Electricity delivered to the grid by the Customer's renewable generation that exceeds the electricity delivered by the Company is defined as Excess Energy. When used in conjunction with a time of use schedule, the TOU periods shall be specified in the applicable schedule and any Excess Energy shall apply first with the Excess Energy generated On-Peak kWh offsetting On-peak usage and then offsetting Off-peak usage. Any excess

RIDER RNM (SC)
RENEWABLE NET METERING

Off-Peak kWh shall only apply against Off-peak kWh usage. Any Excess Energy not used in the current month to offset usage shall carry forward to the next billing month.

8. Excess Energy shall be used to reduce electricity delivered and billed by the Company during the current or a future month, except that for the March billing period any carry-over shall be compensated as described in the RATE paragraph below.
9. In the event the Company determines that it is necessary to increase the capacity of facilities beyond those required to serve the Customer's electrical requirement or to install a dedicated transformer or other equipment to protect the safety and adequacy of electric service provided to other customers, the Customer shall pay the estimated cost of the required transformer or other equipment above the estimated cost which Company would otherwise have normally incurred to serve the Customer's electrical requirement, in advance of receiving service under this Rider.
10. The rates set forth herein are subject to Commission Order No. 2015-194, issued in Docket No. 2014-246-E pursuant to the terms of S.C. Code § 58-40-20(F)(4). Eligibility for this rate will terminate as set forth in that Order, and otherwise as specified above. The value of NEM generation eligible for this Rider shall be computed using the methodology contained in Commission Order No. 2015-194, in Docket No. 2014-246-E, and shall be updated annually by the Company. The value of NEM generation for ~~2015~~ 2017 is $0.~~05595~~ 05300 per kWh for Schedules RS, RE, ES, RT and SGS and $0.~~05594~~ 05298 for all other schedules.

RATE

All provisions of the applicable schedule and other applicable riders will apply to service supplied under this Rider, except as modified herein. For any bill month during which the Energy Charges are a net credit, the respective Energy Charges for the month shall be zero. Credits shall not offset the Basic Facilities Charge or the Demand Charge (if applicable). In addition to all charges in the applicable rate schedule for the Customer's net electrical usage, the following credit may be applicable annually:

Annual Credit for Excess Generation
If the Customer has Excess Energy after offsetting usage as of the date of the March billing, the Company shall pay the Customer for the amount of the accumulated Excess Energy times a rate of $0.0483 per kWh, after which the amount of Excess Energy shall be set to zero.

MINIMUM BILL

The monthly minimum bill for customers receiving service under this Rider shall be no less than Basic Facilities Charge from the applicable rate schedule and riders plus, if applicable, any of the following Charges: the Demand Charge, the Economy Demand Charge, Excess Demand Charge and the Extra Facilities Charge.

METERING REQUIREMENTS

The Customer must provide access and designate a location on the load side of the billing meter for the Company to furnish, install, own and maintain metering with 30-minute interval capability to record 100% of the Customer's generator output. At the Company's sole option, the generator meter requirement may be waived for customers served under a net metering rider on or before December 31, 2015. The Company will also furnish, install, own and maintain a billing meter to measure the kWh delivered by the Company to the Customer, and to measure the net kWh purchased by the Customer or delivered to the Company. For renewable generation capacity of 20 kW AC or less, the billing meter will be a single, bi-directional meter which records independently the net flow of electricity in each direction through the meter, unless the Customer's overall electrical requirement merits a different meter. For larger renewable generation capacities, the Company may elect to require two meters with 30-minute interval capabilities to separately record the Customer's electrical consumption and the total generator output, which will be electronically netted for billing. All metering shall be at a location that is readily accessible by the Company.

RIDER RNM (SC)
RENEWABLE NET METERING

SAFETY, INTERCONNECTION AND INSPECTION REQUIREMENTS

This Rider is only applicable for installed renewable generation systems and equipment that complies with and meets all safety, performance, interconnection, and reliability standards established by the Commission, the National Electric Code, the National Electrical Safety Code, the Institute of Electrical and electronic Engineers, Underwriter's Laboratories, the Federal Energy Regulatory Commission and any local governing authorities. The Customer must comply with all liability insurance requirements of the Interconnection Standard.

POWER FACTOR

The Customer's renewable generation must be operated to maintain a 100% power factor, unless otherwise specified by Company. When the average monthly power factor of the power supplied by the Customer to the Company is other than 100%, the Company may correct the energy in kWh, as appropriate. The Company reserves the right to install facilities necessary for the measurement of power factor. The Company will not install such equipment, nor make a power factor correction if the renewable generation system is less than 20 kW and uses an inverter.

CONTRACT PERIOD

The Customer shall enter into a contract for service under this Rider for a minimum original term of one (1) year, and the contract shall automatically renew thereafter, except that either party may terminate the contract after one year by giving at least sixty (60) days prior notice of such termination in writing.

The Company reserves the right to terminate the Customer's contract under this Rider at any time upon written notice to the Customer in the event that the Customer violates any of the terms or conditions of this Rider, or operates the renewable generation system and equipment in a manner which is detrimental to the Company or any of its customers. In the event of early termination of a contract under this Rider, the Customer will be required to pay the Company for the costs due to such early termination, in accordance with the Company's South Carolina Service Regulations.